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## Product Information

### Lambda phage DNA

Methylated

from *Escherichia coli* host strain W3110

Product Number **D 9768**

Storage Temperature 2–8 °C

CAS<sup>#</sup> 91080-14-7

### Product Description

The lambda phage has an icosahedral head and a long tail terminating in a single fiber. At both ends of the 5' termini are complementary 12-nucleotide single strand sequences that contribute to the cohesive ends (*cos* region) of the lambda DNA. The tail of the phage latches on the host outer membrane receptor and injects phage DNA into the cell. The phage converts the *E. coli* to a lysogenic state in which the phage functions are repressed and the phage genome may remain dormant (prophage) for a long time. This property is seen in bacteriophages that carry CII and CIII genes that are responsible for CI expression. Bacteriophages with CI mutation in the CI gene are able to maintain a lysogenic state at defined temperatures.

Infecting *E. coli* strain W3110 with lambda C1857 strain creates *E. coli* lysogen cultures. The phage is released from *E. coli* cell pellets by lysing with a high salt buffer, pH 8.0. The crude mixture is passed through a series of enzymatic steps, multiple cesium gradients, and phage DNA is dialyzed against 1 mM Tris-HCl, pH 8.0, and 1 mM magnesium chloride. The DNA is phenol-chloroform extracted and then lyophilized from a solution in 1 mM Tris-HCl, pH 7.5, 1 mM NaCl, 1 mM EDTA.

This product is provided as a lyophilized powder.

Molecular weight: 48,502 bp ( $31.5 \times 10^3$  kDa)

Source: *Escherichia coli* W3110

Strain: *Ic1857*, *Sam 7*

One A<sub>260</sub> unit is equivalent to ~50 µg of DNA.

Lambda phage DNA is a suitable substrate for restriction endonucleases. Unique sites include *Apa* I, *Nae* I, *Nar* I, *Nhe* I, *Pae*R7 I, *Sna*B I, *Xba* I, and *Xho* I. Methylated lambda is partially cleaved by *Bcl* I, *Cla* I, *Mbo* I, *Mbo* II, *Taq* I and *Xba* I.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

Store at 2–8 °C.

### References

1. Sanger, F., et al., Nucleotide sequence of bacteriophage lambda DNA. *J. Mol. Biol.*, **162**, 729-773 (1982)
2. Bacteriophage lambda, complete genome, NCBI Accession: NC\_001416.

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